

Using the 11-item version of the RCADS to identify anxiety and depressive disorders in adolescents

Article (Supplemental Material)

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**Using the 11-item Version of the RCADS to Identify Anxiety and Depressive Disorders in
Adolescents**

Journal of Abnormal Child Psychology

Electronic Supplementary Material 3: Examining the functioning of items assessing risk of suicide/self-harm and symptom impact and duration.

Adolescent-report

a) Rank-ordered item-discrimination indices for the suicidal ideation items

Item name	Item	Item-depression diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
MFQ19_T	I thought about killing myself.	.39*	.39*	.40*
MFQ16_T	I thought that life wasn't worth living.	.36*	.35*	.35*
MFQ17_T	I thought about death or dying.	.32*	.32*	.33*
MFQ18_T	I thought my family would be better off without me.	.18*	.17*	.21*

Note. MFQ-P16-19_T = transformed MFQ items, * $p < .01$.

b) ROC curve analyses for 5 RCADS depression items with different combinations of suicidal ideation items

	Total		Boys		Girls		Older adolescents		Younger adolescents		
	AUC (total)	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec
5 Depression items	.87	8.5	.82/.77	7.5	.88/.83	8.5	.82/.71	8.5	.79/.70	8.5	.90/.80
5 Depression items + MFQ 19_T, MFQ 16_T, MFQ 17_T	.88	11.25	.83/.76	10.3	.92/.82	11.25	.83/.72	11.75	.80/.78	11.25	.82/.78
5 Depression items + MFQ 19_T, MFQ 16_T	.89	10.75	.80/.79	10.25	.92/.86	10.25	.83/.73	10.75	.80/.77	10.75	.82/.81
5 Depression items + MFQ 19_T	.89	9.25	.83/.79	8.8	.92/.85	9.25	.83/.76	9.25	.80/.78	9.25	.91/.80

Note. Sens/Spec = Sensitivity/Specificity. MFQ-P16-19_T = transformed MFQ-C items.

c) Summary of binary logistic regression for 5 RCADS depression items with and without suicidal ideation item

Model		<i>b</i> (SE)	Wald z-value	OR (95% CI)	McFadden's R^2	Model fit change (χ^2)
Model 1						
	Constant	-5.73 (.58)	-9.83*		.34	143.81**
	RCADS 5 depression items - A	.51 (.06)	8.55*	1.66		
Model 2						
	Constant	-5.98 (.77)	-7.81*		.41	6.23 ($p = .013$)
	RCADS 5 depression items - A	.45 (.08)	5.55*	1.56 [1.35-1.85]		
	MFQ19_T	.45 (.18)	2.50 ($p = .012$)	1.56 [1.10 - 2.23]		

Note. MFQ-19_T = transformed MFQ-C item, A = adolescent-report, * $p < .01$.

d) Rank-ordered item-discrimination indices for the symptom impact and duration items

Item name	Item	Item-any anxiety/depressive disorder diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
Impact - Family and Friends ^a	How much of an impact do these difficulties have on your family and friends?	.53*	.51*	.52*
Impact – Distress	How much do these difficulties upset or distress you?	.52*	.49*	.52*
Impact – School	How much do these difficulties get in the way of your everyday life in these areas (School)	.52*	.50*	.50*
Impact - Outside the school	How much do these difficulties get in the way of your everyday life in these areas (Outside the school)	.44*	.42*	.42*
Impact – Friends	How much do these difficulties get in the way of your everyday life in these areas (Friends)	.40*	.37*	.38*
Impact -Time	How long have you had these difficulties for?	.34*	.31*	.30*
Impact – Home	How much do these difficulties get in the way of your everyday life in these areas (Home)	.30*	.27*	.30*

Note. ^aItem with a high (>10%) proportion of missing responses, * $p < .01$.

e) ROC curve analyses for 11 RCADS items with different combinations of symptom impact and duration items

	Total		Boys		Girls		Older adolescents		Younger adolescents		
	AUC (total)	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec
RCADS 11-item Total	.82	12.5	.80/.71	8.5	.84/.70	14.5	.72/.68	14.5	.80/.76	11.5	.78/.66
RCADS 11-item Total + 5 Impact items	.84	22.5	.82/.74	18.0	.88/.78	24.5	.75/.70	24.5	.84/.78	21.5	.76/.73
RCADS 11-item Total + 4 Impact items	.85	19.5	.83/.73	16.5	.83/.78	21.5	.77/.71	22.5	.80/.79	18.5	.76/.70
RCADS 11-item Total + 3 Impact items	.84	18.5	.81/.73	14.5	.88/.80	20.5	.75/.70	20.5	.84/.79	17.5	.74/.71
RCADS 11-item Total + 2 Impact items	.84	16.5	.84/.72	13.5	.88/.78	18.5	.76/.66	18.6	.86/.74	16.5	.74/.72
RCADS 11-item Total + 1 Impact item	.83	14.5	.83/.71	10.5	.89/.71	17.5	.72/.70	17.5	.79/.79	14.5	.73/.73

Note. Sens/Spec = Sensitivity/Specificity.

f) Summary of binary logistic regression for total scale with and without symptom impact items (adolescent-report)

Model		b (SE)	Wald z-value	OR (95% CI)	McFadden's R^2	Model fit change (χ^2)
Model 1	Constant	-2.44 (.28)	-8.81*		.28	142.47*
	RCADS 11 item Total - A	.19 (.02)	10.02*	1.21 [1.64, 1.25]		
Model 2	Constant	-3.97 (.44)	-9.00*		.41	26.59*

RCADS 11 item Total - A	.11 (.03)	4.37*	1.12 [1.07, 1.18]
Impact items - A	.62 (.13)	4.90*	1.85 [1.46, 2.40]

Note. A = adolescent-report, * $p < .01$.

Parent-report

a) Rank-ordered item-discrimination indices for the suicidal ideation items

Item name	Item	Item-depression diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
MFQ-P16_T	My child thought that life wasn't worth living	.33*	.33*	.33*
MFQ-P17_T	My child thought about death or dying	.22*	.22*	.25*
MFQ-P19_T	My child thought about killing himself/herself	.21*	.21*	.22*
MFQ-P18_T	My child thought my family would be better off without him/her	0.05	0.04	0.08

Note. MFQ-P16-19_T = transformed MFQ-P item, * $p < .01$.

b) ROC curve analyses for 5 RCADS items plus different combinations of suicidal ideation items

	Total		Boys		Girls		Older adolescents		Younger adolescents		
	AUC (total)	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec
5 Depression items	.86	6.5	.84/.75	5.5	.93/.75	6.5	.85/.72	6.5	.82/.74	6.5	.90/.76
5 Depression items + MFQ-P16_T¹	.87	6.75	.90/.77	6.5	.90/.84	6.75	.90/.74	6.5	.86/.76	7.25	.90/.84
5 Depression items + MFQ-P19_T	.87	6.75	.92/.76	6.5	.90/.84	7.25	.79/.78	6.5	.90/.75	7.25	.90/.82

Note. Sens/Spec = Sensitivity/Specificity, MFQ-P16-19_T = transformed MFQ-P item.

c) Summary of binary logistic regression for 5 RCADS depression items with and without suicidal ideation item

Model	<i>b</i> (SE)	Wald <i>z</i> -value (p-value)	OR (95% CI)	McFadden's <i>R</i> ²	Model fit change (χ^2)
Model 1					
Constant	-4.41 (.43)	-10.36*		.32	111.16*
RCADS 5 depression items - P	.43 (.05)	8.42*	1.66 [1.49, 1.89]		
Model 2					
Constant	-4.92 (.57)	-8.58*		.61	.451 (p = .502)
RCADS 5 depression items - P	.45 (.07)	6.43*	1.56 [1.38-1.81]		
MFQ-P19_T	.15 (.23)	.68 (p = .497)	1.17 [.73-1.81]		

Note. MFQ-P19_T = transformed MFQ-P item, P = parent-report, * $p < .01$.

¹ The ROC curve analyses confirmed that the optimal parent-report depression scale with MFQ-16 risk item was not significantly different ($p = .93$) from the parent-report depression scale that included the same MFQ-19 risk item as adolescent-report depression scale.

d) Rank-ordered item-discrimination indices for the 11 RCADS items plus symptom impact and duration items

Item name	Item	Item- anxiety diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
Impact-Distress	How much do these difficulties upset or distress your child?	.65*	.63*	.65*
Impact-Family	How much of an impact do these difficulties have on you or the family as a whole?	.60*	.58*	.61*
Impact-School	How much do these difficulties get in the way of your child's everyday life in these areas? (School)	.59*	.57*	.59*
Impact-Outside the school	How much do these difficulties get in the way of your child's everyday life in these areas? (Outside the school)	.58*	.56*	.58*
Impact-Home	How much do these difficulties get in the way of your child's everyday life in these areas? (Home)	.54*	.52*	.54*
Impact-Friends	How much do these difficulties get in the way of your child's everyday life in these areas? (Friends)	.49*	.46*	.49*
Impact-Time	How long has your child had these difficulties for?	.23*	.21*	.24*

Note. * $p < .01$.

e) ROC curve analyses for different combinations of symptom impact and duration items

	Total Boys		Girls		Older adolescents		Younger adolescents				
	AUC (total)	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec	Cut-off	Sens/Spec		
RCADS 11-itemTotal	.88	10.5	.80/.79	7.5	.96/.80	11.5	.78/.75	9.5	.84/.77	10.5	.80/.77
RCADS 11-itemTotal – matched to adolescent-report	.89	14.5	.82/.80	12.5	.86/.84	14.5	.87/.74	14.5	.84/.83	14.5	.80/.79
RCADS 11-itemTotal + 6 Impact items	.90	20.5	.84/.79	17.5	.82/.82	22.5	.83/.78	20.5	.84/.80	20.5	.85/.79
RCADS 11-itemTotal + 5 Impact items	.90	19.5	.82/.80	15.5	.89/.84	21.5	.81/.80	18.5	.87/.80	19.6	.81/.79
RCADS 11-itemTotal + 4 Impact items	.90	18.5	.81/.81	14.5	.86/.84	19.5	.83/.77	17.5	.87/.80	18.5	.80/.80
RCADS 11-itemTotal + 3 Impact item	.90	16.5	.81/.80	13.5	.86/.84	17.5	.84/.76	15.5	.86/.80	16.5	.80/.79
RCADS 11-itemTotal + 2 Impact item	.90	14.5	.82/.80	11.5	.92/.82	15.5	.81/.76	13.5	.86/.80	14.5	.82/.79
RCADS 11-itemTotal + 1 Impact item²	.89	12.5	.83/.80	10.5	.84/.84	13.5	.83/.75	12.5	.84/.83	12.5	.81/.79

Note. Sens/Spec = Sensitivity/Specificity.

² The ROC curve analyses confirmed that the optimal parent-report total scale with one symptom impact item was not significantly different ($p = .62$) from the parent-report total scale that included the same symptom impact items as adolescent-report total scale.

f) Summary of binary logistic regression for the 11 RCADS items with and without symptom impact items

Model	<i>b</i> (<i>SE</i>)	Wald <i>z</i> - value (<i>p</i> -value)	OR (95% CI)	McFadden's <i>R</i> ²	Model fit change (χ^2)
Model 1					
Constant	-2.74 (.28)	-9.94*	1.29 [1.24, 1.35]	.42	213.67*
RCADS 11 item Total - P	.26 (.02)	11.02*			
Model 2					
Constant	-3.79 (.40)	-9.42*		.50	17.06*
RCADS 11 item Total - P	.15 (.03)	4.52*	1.16 [1.09, 1.24]		
Impact items - P	.53 (.13)	4.02*	1.69 [1.31, 2.20]		

Note. P = parent-report, **p* < .01.